

## **BOT - 501**

### **Biology and Diversity of Viruses, Bacteria and Fungi**

M.Sc Botany (MSCBOT) (12/13/16/17)

First Year, Examination, 2019

**Time: 3 Hours**

**Max. Marks: 80**

**Note:-** This paper is of Eighty (80) marks containing three (03) Section A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

#### **Section-A**

#### **(Long Answer Type Question)**

**Note:-** Section 'A' contains four (04) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

(2×19=38)

1. Define fungi and mention salient features of major groups. Explain the tendency of Sexual reproduction in fungi.

2. What are plant viruses? How virus is multiplied in a host? Explain the methods of isolation and purification of viruses.
  
3. Write an explanatory account on any two of the following:
  - (a) Bacterial conjugation.
  - (b) Cyanobacteria and eubacteria
  - (c) Mycoplasma and mycoplasmal diseases.
  
4. Write short notes on the followings:
  - (a) Parasexuality
  - (b) General account of Deuteromycotina
  - (c) Role of fungi in Industry.
  - (d) Fungi as Human and Animal parasites .

### **Section-B**

#### **(Short Answer Type Question)**

**Note:-** Section 'B' contains eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any four (04) questions only.

(4×8=32)

1. Discuss the role of fungi in Agriculture and forestry.
2. Describe transmission of Viruses.
3. Differentiate the following:
  - (a) Animal viruses and Plant viruses.
  - (b) Transcription and Translation
4. Write a note on mastigomycotina.
5. Describe economic importance of viruses.
6. Bacterial disease symptoms in plants.
7. Bacteriophage and its structure.
8. General account of Plant Viral diseases.

### **Section-C**

#### **(Objective Type Questions)**

**Note:-** Section 'C' contains ten (10) objective type questions of one (01) marks each. All the questions of this section are compulsory. (10×1=10)

Indicate whether the following statements are true or false:

- (I) Viruses do not independently fulfil the characteristics of life. (True/False)
- (II) A virus that can reproduce without killing its host is called a temperate virus. (True/False)

- (III) *Morchella* is an edible fungus belonging to basidiomycetes. (True/ False)
- (IV) Heterothallism in fungi was discovered by Alexander Fleming. (True/ False)
- (V) In fungi, with the progressive complexity of the Vegetative body, there is a gradual degradation of sex organs. (True/False)
- (VI) Bacteria are cosmopolitan in distribution because of having excellent power of tolerating the environmental extremes. (True/ False)
- (VII) In basidiomycotina well developed sex organs are present. (True/False)
- (VIII) *Rhizobium* is freely found living in the soil while *Azobactor* in root nodules. (True/False)
- (IX) Flagellated cells are absent in cyanobacteria. (True/False)
- (X) Parasexuality was observed for the first time by Pontecorvo and Raper in *Aspergillus nidulans*. (True/ False)

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